

REMARKS

Claims 1-35 and 43 were pending all of which were rejected. Reconsideration is respectfully requested.

Claim Rejections – 35 U.S.C. §102

Claims 1, 3-4, 17-18, 21, 27-30, 32, and 34 were rejected under 35 U.S.C. §102(e) as being anticipated by Sugimoto (7,084,435) ("Sugimoto"). Applicant requests reconsideration.

Amended independent Claim 1 recites, among other things, "a light emitting diode comprising a chip having a wavelength converting layer that forms a light emitting surface that emits light having a range of wavelengths" and "a collimating optical element disposed to receive the light having only the range of wavelengths emitted from the light emitting surface of the chip". Thus, no conversion of the wavelengths of light occurs between the light emitting surface of the chip and the collimating optical element. Support for the amendment to Claim 1 is found, e.g., in Figs. 5A, 5B and 6 and the accompanying text. No new matter has been added.

Sugimoto does not disclose "a light emitting diode comprising a chip having a wavelength converting layer that forms a light emitting surface that emits light having a range of wavelengths" as recited in claim 1. Instead, Sugimoto specifically discloses that the "fluorescent member 3 is placed on the optical member 4 formed by molded resin, on the side closest to the light-emitting element in a manner so as not to contact the light-emitting element 2." Col. 8, lines 22-25. Sugimoto uses the fluorescent member 3 to convert the light from the light emitting element 2 into "light having a wavelength that is different from that of the incident light (exciting light)." Col. 9, lines 21-25. Thus, optical member 4 of Sugimoto does **not** "receive the light having only the range of wavelengths emitted from the light emitting surface of the chip" as recited in Claim 1, but instead receives the converted light from the separate fluorescent member 3. Moreover, there is no suggestion or motivation to remove the fluorescent member 3. In fact, Sugimoto teaches against moving the fluorescent member 3, noting that because "the fluorescent member 3 is not made in contact with the light emitting element 2 ... it becomes possible to suppress deterioration due to heat in the fluorescent material forming the fluorescent member 3". Col. 9, line 30-41.

Accordingly, Sugimoto fails to teach or suggest all the features of claim 1. Thus, Applicant respectfully submits that claim 1 is patentable over Sugimoto. Reconsideration and

withdrawal of this rejection is respectfully requested. Claims 3-4 depend from claim 1 and are, therefore, likewise patentable for at least the same reasons.

Independent claims 17 was also amended to include "a light emitting diode comprising a chip having a wavelength converting layer that forms a light emitting surface. As discussed above, Sugimoto does not teach or suggest and in fact teaches away from such a feature. Accordingly, Applicant submits that claim 17 is patentable over Sugimoto. Reconsideration and withdrawal of this rejection is respectfully requested. Claims 18, 21, and 27-30 depend from claim 17 and are, therefore, likewise patentable for at least the same reasons..

With regard to claims 32 and 34, Applicant notes that these claims are dependent from claim 31, which was not rejected as being anticipated by Sugimoto. Accordingly, Claims 32 and 34 cannot be anticipated by Sugimoto. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim Rejections – 35 U.S.C. §103

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Sugimoto. Applicant requests reconsideration.

Claim 2 has been amended to be in independent form by incorporating the subject matter of originally filed Claim 1, and thus Claim 2 has not been narrowed. No new matter has been added.

Claim 2 recites "wherein the collimating optical element and the chip are separated by a distance that is less than or equal to approximately 50% of the width of the chip." The Examiner stated that the distance is considered to involve routine optimization, Applicant however, disagrees. For example, as described in the specification, the inventors determined that by eliminating an encapsulent, the optical element can be placed close to the LED so that light emitted at large angles can be captured using a small lens so that the collection efficiency is improved. See, e.g., paragraph [0039]. Thus, Applicant submits that the placement of the optical element is not mere "routine optimization".

Accordingly, Applicant respectfully submits that Claim 2 is patentable over Sugimoto.

Claims 5, 22, and 35 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sugimoto in view of Waitl et al. (6,610,563) ("Waitl").

Claims 5, 22, and 35 depend from claims 1, 17, and 31, respectively. Waitl does not make up for the deficiencies of Sugimoto. Accordingly, claim 5 is patentable for at least the same reasons as the independent claims.

Additionally, with respect to claim 35, neither Sugimoto nor Waitl teach or suggest "a micro-display disposed to receive the light emitted from the light emitting surface of the chip after the light passes through the collimating optical element" as recited in Claim 31. Moreover, Waitl does not make up for the deficiencies of Sugimoto or Wu as discussed with regard to Claim 31 below. Accordingly, claim 35 are patentable for at least the same reasons as Claim 31.

Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over Sugimoto modified by Waitl further in view of Ishinaga (6,180,962) ("Ishinaga").

Claim 6 depends from Claim 1. Ishinaga does not make up for the deficiencies of Sugimoto and Waitl. Accordingly, Claim 6 is patentable for at least the same reasons as Claim 1.

Claims 7-16, 19-20, 23-26, 31 and 33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sugimoto in view of Wu (6,769,773) ("Wu").

Claims 7-16 depend from claim 1 and claims 19-20 and 23-26 depend from claim 17. Wu does not make up for the deficiencies of Sugimoto. Accordingly, claims 7-16 and claims 19-20 and 23-26 are patentable for at least the same reasons as claim 1 and 17, respectively.

Amended independent claim 31 recites "a light emitting diode comprising a chip having a wavelength converting layer that forms a light emitting surface that emits light having a range of wavelengths" and "a collimating optical element disposed to receive the light having only the range of wavelengths emitted from the light emitting surface of the chip". As discussed in reference to claim 1, Sugimoto fails to teach these features.

Wu fails to make up make up for the deficiencies of Sugimoto. Accordingly, claim 31 is patentable over the combination of Sugimoto and Wu. Claim 33 depends from Claim 31 and is, therefore, likewise patentable for at least the same reasons.

For the above reasons, Applicants respectfully request allowance of Claims 1-35 and 43. Should the Examiner have any questions concerning this response, the Examiner is invited to call the undersigned at (408) 378-7777.

Respectfully submitted,



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